MANAGING INFORMATION TECHNOLOGY:

Nevada's Strategic Plan

Prepared By

Department of Information Technology

October 31, 2001

Version 4.0

PREFACE

The Department of Information Technology (DoIT) continues to aggressively evaluate our technical strategy to find ways to better serve our customers. This document depicts the immediate I/T needs of the state, and the recommended strategies to meet these needs. It is a 'working' document and will evolve with quarterly updates for minor revisions and yearly updates for major changes. The next issuance will include the tactical plans aligned with the strategic issues.

This plan will continue to grow and change as technology and the needs[1] of Nevada State government change. It is to be our guide in the new millennium.

WHAT'S NEW?

- Updates to Strategic Plan
- Governor Guinn Appoints Chief Information Officer
- Updates to Appendix B – NV Electronic Government State of Direction
- Updates to Appendix D – NV Web Infrastructure
- Updates to Appendix F – Capacity Plan and Forecast
- New: Appendix J – DoIT Infrastructure
- New: Appendix K – I/T Community Index

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[1] Nevada's I/T Needs, Appendix A

Insert Vision Fact Sheet

Insert Values Fact Sheet

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EXECUTIVE SUMMARY

This Plan addresses fundamental questions of *strategy* regarding how information technology (I/T) should be deployed to best serve Nevada's future.

I/T STRATEGY

The proposed I/T strategy is based on an enterprise-wide viewpoint and a customer service, customer-driven approach. The strategy does not differentiate between agency ownership of I/T resources, nor who must or may not use services. This strategy reflects the values of the consumers of state I/T: those citizens, businesses and other government entities who benefit from our collective I/T services.

The state of Nevada must focus on five key objectives in the coming years:

Objective 1: Effectiveness and Efficiency
To improve management of I/T in state government so that technology resources and investments provide greatest benefits at the least cost and increase services to citizens.

Objective 2: Enable Electronic Government
To create an electronic service and information delivery environment that ensures privacy is secure, easy to use and available to everyone at any time.

Objective 3: Human Capital
To move forward with methods to leverage technology expertise and provide for a highly qualified workforce.

Objective 4: Manage Leading Edge Technology Investments
To maximize the use of emerging technologies and assess their value to the state of Nevada.

Objective 5: Infrastructure
To advance a government statewide I/T infrastructure plan and architecture which supports interoperability among systems.

Effectiveness and Efficiency

The plan provides a foundation for organizational changes and the setting of state standards. These changes support interoperability, consistency, and more effective management of training and total costs. Specific improvements include:

- **Institute an I/T Oversight Committee.** The enterprise wide advisory oversight committee will be structured to ensure that technology is used effectively and efficiently. The Oversight Committee will act as a representational forum to bring major stakeholders together.

- **Process Improvement.** The processes focus on organizational design and improved methodologies that are presently not meeting expectations. Through successful implementation of these processes, which includes project management and quality assurance, the goal is to reduce total project life cycle costs.

- **Establish Formal Chief Information Officer (CIO) position.** Creation of the CIO as the state's point of contact and spokesperson for all matters related to I/T and resources. This includes policies, standards setting, deployment, strategic and tactical planning, acquisition, management, operations, as well as, representing the state on I/T issues.

Enable Electronic Government

Strategic Planning, with input from citizens, businesses, and all levels of government, must form the basis of development and implementation of the e-government strategy.[2] Specific improvements to include:

- **Implement of e-government.** Enable electronic government by insuring electronic access to information and services.

- **Maintain Security and Privacy Controls.** This will allow the flow of confidential data through web-enabled services.

Human Capital

Although hardware, software and infrastructure are necessary to I/T, by far the most important resource is human expertise. Initiatives identified are:

- **Retain Key Staff.** Alternative work "arrangements may enhance agencies' abilities' to attract and retain valuable, skilled employees who would otherwise terminate their State employment to meet family needs". [3]

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[2] Nevada's Electronic Government Statement of Direction, March 2001 Appendix B
[3] Executive Order, 11/29/00, Governor Kenny Guinn

- **Train Employees.** Training must support the computing standards, software platforms and communications networks adopted by the State.

- **Procure I/T Specialists.** There is a critical on-going need to recruit a qualified, competent I/T workforce.

Manage Leading Edge Technology Investments

The innovative use of I/T maximizes the development of more cost-effective services. Specific improvements to I/T processes identified include:

- **Emerging Technology.** Provide continued emphasis on research for trends and new technology. Assess the available private and public sector opportunities and communicate findings.

- **Maintain a Strategic Planning Process.** Maintain a top-down enterprise level I/T strategic planning process. The process will include the tracking and evaluation of trends in technology, and state and federal legislation. Steps for updating the plan on a regular basis will be established.

- **Develop aggressive Vendor Management Process.** Vendor management is essential to ensure that the State of Nevada receives a quality product that is delivered within scope, on time and with financial accountability.

- **Modernize I/T Funding Methodology.** Allow state to respond to rapid changes within the technology environment and customer needs. Timely project funding will support evolving technology.

Infrastructure

The I/T computing and communications infrastructure supports the values, service strategy and vision defined in the Strategic Plan. A new plan and architecture is required to facilitate the core business functions. Specific improvements include:

- **Expansion of SilverNet Communications Network**. This includes expansion of capacity, expansion to additional locations and improvement of reliability.

- **Enterprise-Wide Computing Architecture**. Moving toward a balance of mainframe and distributed processing power that will work together. Identify the path to integrate service availability of separate computing centers.

- **Continue and Enhance Formal Rate Setting Process**. Rates must reflect the true costs of provided services, which includes annual operating expenditures and depreciation on infrastructure resources to allow for asset replacement.

NEVADA'S I/T STRATEGIC PLAN

OVERVIEW

Why a Statewide I/T Strategy?

The objective of the enterprise-wide I/T strategy is to create a tangible, measurable guide to ensure that the state of Nevada's I/T investment are responsive to the expectations of citizens, businesses and other government entities. The strategic plan is broad in scope and highly visible. It provides the supporting framework to develop specific tactical plans, which translate strategy into reality. The time horizon is 3 – 5 years, with periodic review and quarterly update.

A documented enterprise-wide I/T strategy provides:

- Roadmap to the Future
- Shared Vision
- Accountability
- Benchmarking for I/T Project Proposal Evaluation and Funding
- Cost Savings and Efficiency

Scope of this I/T Strategy

To be truly effective, a strategy must reflect the shared objectives of all stakeholders with implementation details defined within specific tactical plans. This proposed I/T strategy is based upon an enterprise approach.

INTRODUCTION

The vision, values and service strategy of DoIT's Strategic Plan provide the foundation on which the following objectives, goals and strategic issues are built. Strategic issues are broad areas that must be addressed to accomplish our goals and achieve our vision. Both the broad strategic issues and their more specific strategies are dynamic and responsive to changing needs. The following strategic issues and strategies address a series of major objectives and will serve to address our immediate challenges.
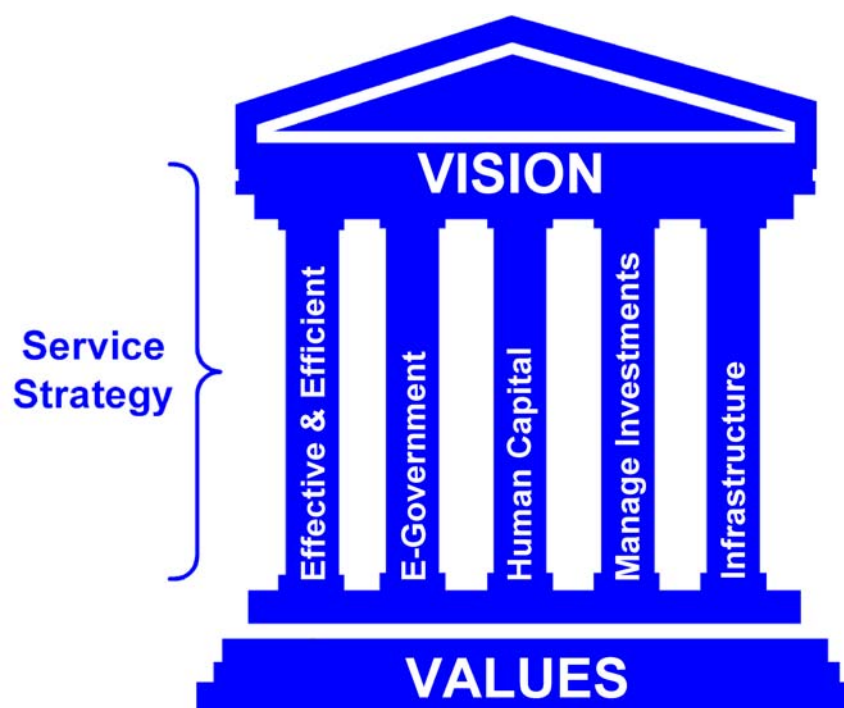
VISION

DoIT envisions an enterprise information system that provides an easily accessible, reliable and accurate infrastructure using innovative partnerships, collaborative and creative solutions to problems. I/T is a key enabler to promote more informed decisions by policy makers and the public by providing easier access to better information.

VALUES

As DoIT acts to accomplish this vision, the following principles and values will guide its decisions and strategies:

Citizen Focus

Government exists to serve its citizens. Government services and information should be easily and equitably accessible and delivered in a simple, effective, courteous and respectful manner. Government is entrusted with data about individuals and groups that is private and inappropriate release of that data to the public is a violation of the public trust. The citizen's right to privacy will be protected.

Enterprise View

A comprehensive view of government and its missions must take priority over that of any individual agency or entity. An enterprise-wide view allows government to leverage the taxpayers' investments to provide the services required and to develop "value added" services.

Cooperation and Standardization

Cooperation and sharing between and among state agencies, other levels of government, and public partners is crucial and fundamental to our work and success. The collective action among agencies, levels of government and with vendors will produce "standards" which form a common framework to allow citizens, government, and business to efficiently communicate and complete transactions.

Workforce Excellence

Innovation should be promoted and rewarded. Decisions should be made at the lowest effective level by a skilled, committed workforce within government to encourage change and improve productivity.

Effective Technology Investments

Proactive technology investments are the means to creating flexible responses to fluid business and program needs.

SERVICE STRATEGY

DoIT provides I/T services based upon the needs of our customers. These customers include the citizens, state agencies, political subdivisions, school districts, and federal agencies. DoIT will assess cost needs and approach service design from the perspective of value and ensure that the organization is focused on the ultimate purpose, which is serving the customer.

OBJECTIVES, GOALS AND STRATEGIC ISSUES

Objective 1: Effectiveness and Efficiency

To improve management of I/T in state government so that technology resources and investments provide the greatest benefits at the least cost and increase services to citizens.

Goals and Strategic Issues

Align state I/T management strategy with the needs of citizens, businesses and other government entities.
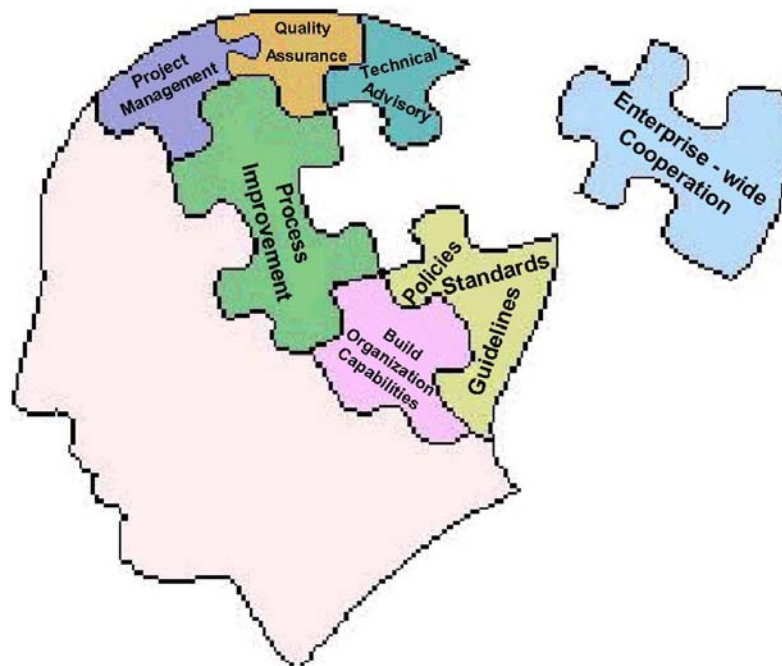

1A.   **ADVISORY STRUCTURE. Develop an enterprise wide technical advisory structure for the state.**

An I/T Oversight Committee is important to ensure technology is used effectively and efficiently, and economies of scale are achieved. The Oversight Committee will develop and implement I/T policies, procedures and standards. The Oversight Committee will define state I/T policies and issues on a broader scale that will include input from universities, local governments, and the private sector.

Tactical Plans

- Establish standing committees to include but not limited to the security, technology standards and architecture, e-government, I/T work force, and technology planning and project oversight committees.

  ➢ *Work groups were set up for the security committee with agency participation in March 2001.*
  ➢ *Work groups for the Work force committee commenced in June, Project Oversight in September and Strategic Planning in October, 2001.*
  ➢ *Nevada Electronic Records, criminal justice integration and e-government committees were previously established and have been incorporated into the oversight advisory structure.*
  ➢ *Set up other work groups by first quarter of FY02.*
  ➢ *Establish others as needed.*

- Agency participation with the workgroups will formalize security and technology standards and others as needed by the governance body to select, sustain, change, phase out and retire standards.

  ➢ *Develop and maintain and I/T community index to increase coordination. (See Appendix K – I/T Community Index)*

- Implement a streamlined review process for agencies procuring technology that adheres to the state standards.

- Develop recommended changes to legislation and administrative rules needed to support integrated technology solutions.

1B.   **METHODOLOGIES. Continue to develop consistent, documented methods and standards for all activities that support customer agencies, such as planning, software development, quality assurance, contract management, and overall project management.**
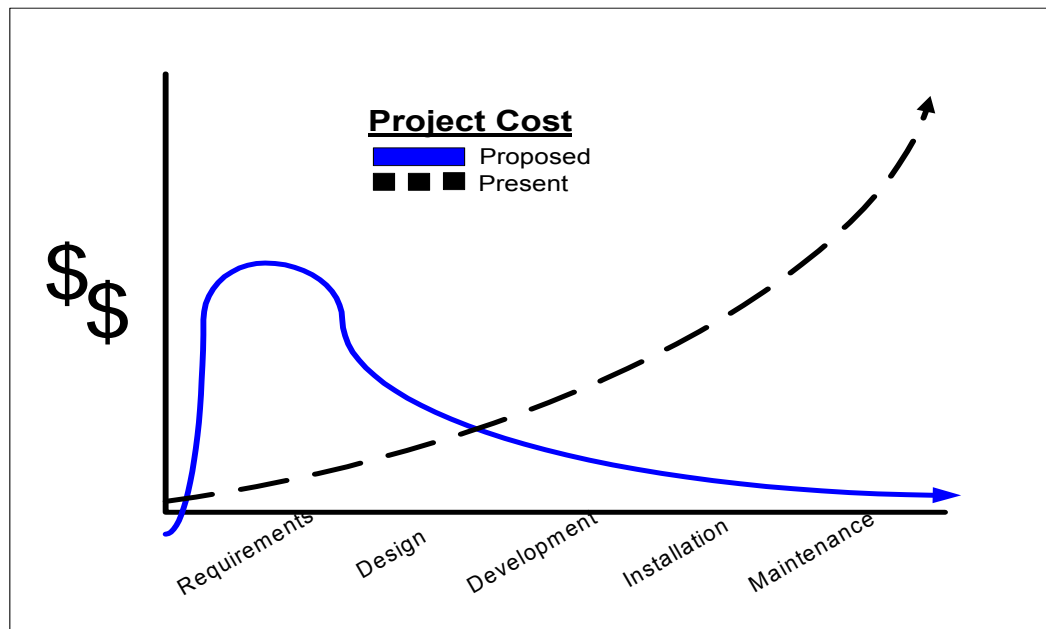
DoIT is engaged in a continuous improvement cycle. These processes focus on organizational design and methodologies that are presently not meeting expectations, through successful implementation of improved processes, which include project management and quality assurance. The goal is to reduce total project life cycle costs as indicated in the project cost diagram.

Tactical Plans

- Ensure standardized project management for all I/T projects.

  ➢ *Present new projects to the Project Planning and Oversight Committee for I/T Oversight Committee approval.*

- Perform technology outlooks to provide statewide planning for the executive branch that ties agency I/T projects to their business direction.

  ➢ *Begin the technology planning process for state agencies by the first quarter FY02.*
  ➢ *Revise budgeting documents.*

- Publish established statewide standard and policies to ensure accountability.

  ➢ *Development of standardized estimating procedures (Wide Band Delphi) that will become a repeatable process for all programmers in DoIT to use in the estimating of application development will be in place by 9/30/01.*

1C.   <u>**TECHNICAL RESOURCES**</u>**. Determine and implement an appropriate level of centralization vs. decentralization of technical resources within the state, based upon efficiency and agency preference.**

There is no "one size fits all" model to determine the degree to which I/T functions should be centralized. This must be determined based upon a business-focused methodology, and may change, as business needs change.   The plan will utilize the best features of centralized and decentralized I/T management, support and decision-making.

Tactical Plans

- Conduct a pilot project for decentralization to measure the impacts of moving programmers to the agency level.

- Service Level Agreements (SLAs) that set expectations defining the scope of work, services, and support structure to be provided in partnership with the participating agency.

  - ➤ *SLAs for the pilot program will be implemented by 07/01/01.*
  - ➤ *The performance indicators for each pilot project will be measured within the applicable fiscal year.*

- Each pilot project will be tracked including the initial request for the project, the costs associated with the requests and the quality of the project.

1D.   <u>**LEADERSHIP.**</u> **Create formal chief information officer (CIO) Position.**

This CIO will provide leadership for all matters related to I/T and resources. This includes policies, standard settings, deployment, strategic and tactical planning, acquisition, management and operations.

Tactical Plans

- Governor Guinn appointed the Chief Information Officer (CIO) for Nevada[4] (ft note: 10/23/01 Press Release). The role of the CIO will:

  - o Identify and integrate technology with the business needs of the state.

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[4] Press Release, 10/23/01, *"Governor Guinn Names Savage Chief Information Officer"*

    o   Be a change agent to support improved processes and increase access to services.

    o   Working with appropriate committees, set and enforce the state's I/T policies and standards.

    o   Ensure technology is implemented and operates in a high level, cost-effective manner.

    o   Represent state on internal and external technical issues.

1E.   <u>**MANAGEMENT AND QUALITY CONTROL**</u>**. Establish technical project management and quality control functions for all I/T development projects. Ensure sufficient, trained and qualified staff is available to support these functions.**

Project management and quality control are essential for the success of I/T projects. Nevada is not alone in experiencing highly visible failures that can be attributed to lack of project management expertise and/or quality control.

Tactical Plans

- Estimate project resource needs with sufficient staff for project management and quality control. Perform comparative analysis of estimates to the current request for additional resources.

  ➢ *At a minimum, include 20% of project cost for project management and quality assurance.*

- Fill the requests for vacant positions once approval is obtained with trained personnel.

- Document work performance standards in advance of filling the positions to ensure the functions satisfy the needs.

1F.   <u>**COST MANAGEMENT**</u>**. For all I/T projects improve technology cost management and accountability by enhancing technology planning, including full lifecycle cost assessment and cost allocation for quality assurance and project management.**

Technology planning, a joint effort between DoIT and agency staff, is the primary means by which agencies allocate funding and resources for

technical projects. An effective planning process ensures that total cost of ownership is anticipated from the start.

SLAs define the terms, conditions and cost of technical services. They also outline the roles and responsibilities of all involved parties. They are standard for most I/T shops in the private sector.

Tactical Plans

- Establish the I/T Planning and Project Oversight Committee by end of first quarter FY02

- Technology planning and budgeting will take place by agencies with presentation to the I/T Planning and Project Oversight Committee within the I/T Oversight Committee for funding approval.

- Regular project status updates will be presented to I/T Planning and Project Oversight Committee.

- Ensure accountability by assessing hard benefits (ROI, Payback etc.) as well as soft benefits.

- Establish SLAs prior to commencement of a project.

  ➢ *The SLA is to identify for project management and quality assurance the specific assignments, tasks, deliverables, meetings and deliverable time frames.*

- Project management and quality assurance for projects to measure progress towards estimated goals and identify trends.

Objective 2: Enable Electronic Government

Deliver public services electronically via the Internet, based upon the principals of convenience and accessibility; trust; security; efficiency and accountability use of technology.

Goals and Strategic Issues

Define policy and implement the supporting legislative framework, technical infrastructure and process guidelines to enable seamless electronic access to government services.

2A. <u>COORDINATION</u>. **Coordinate the state's e-government program.**

The availability of resources and effective delivery of services is critical to the State. Government service delivery will move from the "bricks and mortar" approach to delivery over the Internet. Citizens will increase the use of services online.

Tactical Plans

- Develop a strategic plan and implementation roadmap for e-government in Nevada.

- Incorporate the Statement of Direction adopted by the Steering Committee (See *Appendix B - Nevada's Electronic Government - Statement of Direction.*)

  ➢ *Provide leadership, coordinate and support the SilverSource Steering Committee.*

> ➢ *The Steering Committee will "provide a plan for utilizing electronic technology to improve the delivery of governmental services and to expand the opportunity for economic development".[5]*

- Implement a communication strategy to foster collaboration and to ensure that state agencies and political subdivisions are aware of the Steering Committee's activities and initiatives.

2B.   **<u>IMPLEMENTATION.</u> Implement the technology, services and infrastructure to support the State's e-government initiatives and the recommendations of the SilverSource e-government Steering Committee.**

Electronic government combines technology, interagency cooperation and creativity to enable citizens and businesses to interact more efficiently with government using the Internet and other electronic communications. An added benefit is that e-government can save time and money for constituents as well as the government itself.

Elements of this infrastructure will include, at a minimum:

- Access Security (much more than just a firewall)
- Digital Certificate and other PKI Support
- Digital Signature and Interactive Forms Platform
- E-Payment Platform
- Digital Archiving
- Collaboration Tools (statewide calendaring, shared project management tools, etc.)
- Intranet for Internal Applications (automated payroll, purchase requests, travel reimbursement, motor pool requests etc.)

Tactical Plans

- Conduct a readiness assessment & gap analysis to address policy, technical and customer preparedness for e-government by second quarter FY02.

- Capture and analyze the needs of citizens, legislators, agencies and businesses. (See *Appendix C - e-government Survey of State Agencies*; first phase conducted March 2001.)

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[5] Executive Order, 3/8/2000, Governor Kenny Guinn

- Identify the architecture needed and the infrastructure necessary to support. Present to I/T Technical Standards and Architecture Committee within the I/T Oversight Committee for integration into statewide architecture plan.

- Identify funding sources to implement e-government initiatives.

- Develop a service platform that service modules and supporting processes for common functions, such as e-payments, interactive forms and digital signatures. Use inter-agency working groups during design, development, pilot and rollout. Implement at least one function in FY02.

- Promote the benefits of using of web-enabled technology to executive branch agencies and others.

2C.   <u>**ELIMINATE BARRIORS.**</u> **Reduce the "digital divide" in state of Nevada through outreach and enhanced electronic access to state services.**

A primary result of e-government will reduce the traditional barriers that prevent citizens and businesses from using government services, and replace those barriers with convenient access.

Tactical Plans

- Develop an implementation plan to address:

  - ◆ Social issues such as the need to talk to a person
  - ◆ Cultural issues such as language barriers
  - ◆ Disability issues as defined by ADA guidelines
  - ◆ Economic issues including access to technology devices
  - ◆ Learning issues including marketing, unfamiliarly, and changing habits

    - ➢ *Assess findings from surveys conducted and other information as available. (See agency survey results and format details in <u>Appendix C - e-government Survey of State Agencies</u>; first phase conducted March 2001).*
    - ➢ *Document plan in FY02.*

- Develop methodologies to insure that appropriate government data is available and continuously updated for delivery via electronic means.

> ➢ *Develop a Web Portal Strategy in FY02.*
> ➢ *Publish the Strategy on the Web in FY02*
> ➢ *Develop implementation plan by end of FY03.*

2D.   <u>SECURITY</u>. **Provide secure public access to State web-enabled services.**

With proper security and privacy controls in place, confidential data can be accessed electronically for legitimate government purposes. Examples include applications where information is shared with other entities, both public and private. This is becoming more common in the departments of Employment, Rehabilitation and Training and Human Resources, where the state of Nevada contracts with outside vendors to coordinate and deliver services to customers. Law enforcement, education and agencies assisting juveniles have similar needs.

Tactical Plans

- Enforce Privacy Policy as approved and maintained. (See *Appendix D - Nevada's Web Infrastructure* for additional detail.)

  > ➢ *Implement security package by 10/01/01.*
  > ➢ *Commencing 10/01/01, Web services group will scan network 24x7 to ensure security. A progressive policy towards violators up and to including service termination and legal prosecution will be in effect.*
  > ➢ *Maintain a security training practice and education program in conjunction with the Security Committee within the I/T Oversight Committee.*
  > ➢ *Ensure that all new applications are designed to meet state security policies.*

2E.   <u>FUNDING.</u> **Explore funding alternatives for statewide e-commerce/e-government initiatives to cover infrastructure and top priority services and transactions costs.**

Tactical Plans

- Analyze best practices from other jurisdictions.

  > ➢ *Make recommendations for funding options within FY03.*
  > ➢ *Explore opportunities for grants.*

Objective 3: Human Capital

To move forward with methods to leverage technology expertise and provide for a highly qualified workforce.

Goals and Strategic Issues

Establish an innovative I/T human resource recruitment, development and retention plan.
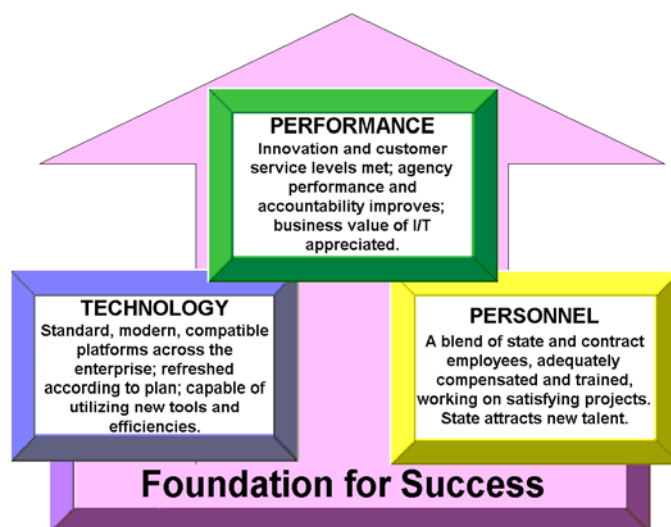
3A. **STAFFING.** **Ensure that the state is able to recruit, hire, develop and retain skilled I/T specialists. This would include positions for project management, quality assurance, strategic planning, emerging technology and web support.**

Success of the goals and initiatives defined in this strategic plan require a competent I/T workforce. In today's technology-driven environment, I/T professionals are in high demand. It is essential that the State maintain skilled employees to avoid over-reliance on contractors and outsourcing.

Technical staffing and compensation levels should be adequate to attract and retain the necessary skills to handle the rapidly expanding demand, and pursue ways for cross agency sharing of skills equipment and knowledge.

Tactical Plans

- Carry through with ways to reduce recruiting times for I/T positions.

- Persist with the pursuit of funds to support bonus programs for high profile projects and difficult to fill positions.

- Investigate methods to identify I/T personnel within state agencies in misclassified I/T positions.

- Document results of above process on an on-going basis; determine further steps at end of FY03.

3B. **TRAINING.** **Ensure that training is available to help employees use technical tools effectively.**

Training must support the computing standards and software platforms adopted by the State.

Tactical Plans

- Establish a statewide information policy regarding I/T training requirements; approved by the I/T Work Force Committee within the I/T Oversight Committee.

- Identify the areas of training requirements; prioritize the development process; review drafts; finalize to obtain the Oversight Committee approval and disseminate.

- Communicate developed policy to appropriate agency personnel, as approved.

3C. **ENVIRONMENT.** **Manage alternative work policies to attract and retain key staff.**

Maintain flexible work schedules with the Governor's Executive Order dated November 29, 2000.

Tactical Plans

- Assess and amend the department policies that provide increased flexibility for employees having to manage work and family issues.

- Expand the utilization of the implemented flextime policy within the department.

- Phase in the necessary policy changes within FY02.

Objective 4: Manage Leading Edge Technology Investments

To maximize the use of emerging technologies and assess their value to the state of Nevada.

Goals and Strategic Issues
Encourage innovation while planning to leverage existing investments.
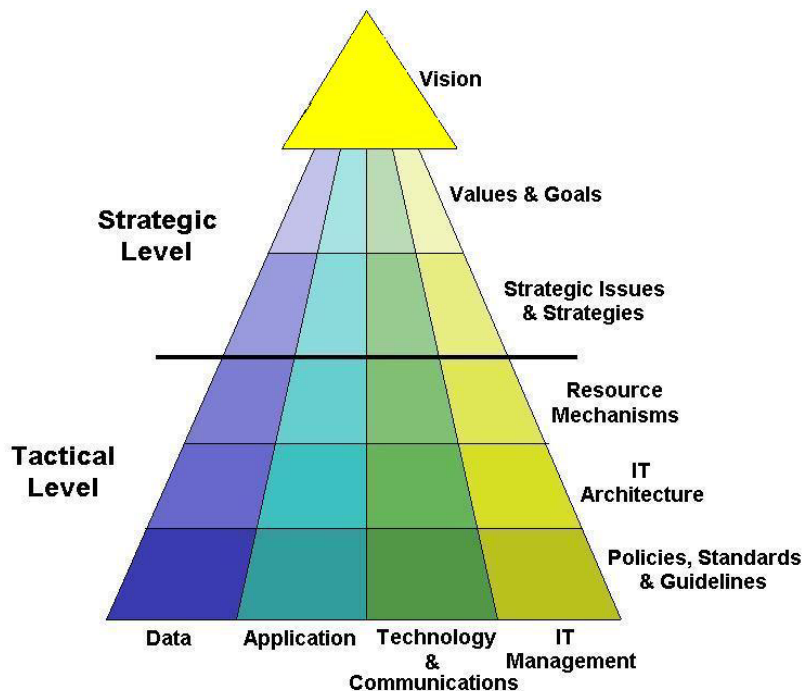
4A. <u>EMERGING TECHNOLOGY.</u> **Research emerging technologies and assess the potential value for the state of Nevada.**

Continued emphasis needs to be placed on research and planning for trends and new technologies to be identified rather than reacting as technology changes. Assess opportunities employing leading edge technologies. Coordinate and share the research including industry trends.

Tactical Plans

- Research ET and assess their value to the state as requested.

- Continue a strong I/T research program

  ➤ *Establish new research linkages and partnerships with education sectors within FY02.*

- Collect, store and disseminate research results, and advocate new technologies.

  ➤ *Evaluate result documentation for effectiveness*
  ➤ *Communicate research*

4B.   **PLANNING PROCESS. Establish a strategic planning process to update the state of Nevada's I/T strategy on a yearly basis.**

- Track and evaluate trends in technology and technology business processes.
- Track and evaluate state and federal legislation relative to technology.
- Ensure representation by all involved entities.
- Revise the plan based upon input.
- Incorporate a comprehensive communications process to those agencies.

Tactical Plans

- Map existing I/T strategic planning processes by March 2002.

- Identify goals and objectives for I/T strategic planning process by April 2002.

- Develop evaluation methodologies to assess the utility and effectiveness of statewide strategic information resources planning by August 2002

- Design I/T planning process by September 2002

  ➤ *Develop metrics to monitor and assess progress towards goals defined in the plan.*
  ➤ *Collect data related to metrics as available; evaluate metrics obtained.*
  ➤ *Establish key dates for communication of the plan.*

- Monitor plan implementation, assess results and modify plan process.

  ➤ *Implement process steps within the next planning phase.*

4C. **VENDOR MANAGEMENT. Develop an aggressive vendor management process that incorporates well-defined expectations and statements of work, vigilant contract administration and project oversight.**

Vendor management is essential to ensure that the state of Nevada receives a quality product that is delivered within scope, on time and with financial accountability.

Tactical Plans

- Establish a contract operations process variance strategy within the SLA.
- Finalize the vendor management process within FY02/03.

- Set up vendor management policies and procedures in March 2002, including training and documentation requirements.

- "Initiate collection of enterprise-wide IT expenditures, IT classifications, and #'s employed" by April 2002

- Initialize a critical issues resolution process by May 2002

- Finalize process with standards in place by July 2002

4D. **FUNDING. Establish a modernized I/T funding methodology.**

The I/T Planning and Project Oversight Committee within the I/T Oversight Committee will review and approve funding for all I/T projects statewide; funding provisions will include project management and quality assurance for I/T projects statewide (See *Appendix E - Budget Considerations* for additional description of direction.)

Tactical Plans

- Conduct a feasibility study to determine the best flexible mechanism to support the funding requirements of the I/T projects.

  ➢ *Perform feasibility study and analysis of options within FY02/03.*

- Evaluate grant options and opportunities for I/T projects of any size.

- Make recommendations to the I/T Oversight Committee for legislative request to establish revolving funding mechanism.

Objective 5: Infrastructure

To advance a government statewide I/T infrastructure plan and architecture which supports interoperability among systems.

Goals and Strategic Issues

Implement a process for enterprise architecture planning to provide strategic direction for investment, manage costs and provide oversight. Ensure effective resource planning to optimize existing resources and implement improved technologies to support core business functions.

5A. <u>PLANNING PROCESS.</u> **Form a comprehensive technical resource management planning process to include capacity planning, forecasting, and change management.**

Reliable capacity planning and forecasting processes will reduce costs and make better use of existing resources throughout the organization. The planning process involves assessing long-term resource use, evaluating alternatives and conducting cost/benefit analyses. Anticipate and manage enterprise-wide needs for major initiatives such as e-government.

Successful management of the elements below will allow Nevada to anticipate and solve problems and to plan for future IT resource needs:

- Key State-wide IT Resources
- Performance Indicators
- Forecasting Methodologies
- Customer Support and Expectations

Decision support to assist customer agencies in evaluating the alternatives in their decision-making process and budgeting for long term recurring costs is part of forecasting and capacity planning. It is useful in managing change, from software version upgrades to major system replacement. (See *Appendix F - Capacity Plan and Forecast*, for more detailed description of the process.)

Tactical Plans

- Implement planning and forecasting processes

- Expand forecasting process to include all I/T stakeholders within FY02.

- The capacity update will include a formal project list with a discussion of the projects monitoring process to include such information in future projections. (See Appendix F: Capacity Plan, Project Listing)

  ➢ *The capacity plan is updated on a quarterly basis for management, monitoring and planning purposes.*
  ➢ *The internet/web capacity planning process will be formalized by December 2001. Historical data for one year, as well as customer input will provide insight needed for forecasting.*

- This capacity management process will continue to evolve as the enterprise changes, the customers' needs unfold, and new technologies emerge.

5B. <u>**COMMUNICATIONS.**</u> **Provide a secure, reliable state communications network with sufficient bandwidth to meet projected growth.**

The communications network exists now as SilverNet and forms the foundations for both e-government access and state internal communication. With the convergence of technologies, digitized voice telephone and video teleconferencing are now carried over this digital network, in addition to all forms of data traffic. In the new information age, the SilverNet communication network is the digital transportation equivalent of Nevada's physical highway and roadbed transportation system. As such, the SilverNet is growing at a tremendous pace and requires continuous effort to expand the capacity, extend to more distribution points and provide safe, secure (virtual) traffic transport.

Tactical Plans

- Develop and integrate a communications plan for the state network.

- Support new e-government applications that are being developed to deliver vital services by state agencies.

- Continued integration of voice, video and data services.

  ➢ *Continue to expand SilverNet to meet the state needs. The expansion will be in the area of additional bandwidth to support existing customer's demand and the addition of new locations for new customers.*

  ➢ *The Plan and implementation for VPN service with rate structure was completed in August 2001*

  ➢ *The Plan and implementation of DSL service with rate structure will be completed by April 2002*

  ➢ *The Plan and implementation for VOIP service with rate structure is to be completed by July 2003*

- Acquire additional hardware and circuits as needed to support new growth.

  ➢ *Commence Digital Microwave Phase 2 by July 2001. Cut over traffic to new system and integrate Phases 1 and 2 by July 2003.*

5C. **ARCHITECTURE.** **Develop an enterprise-wide architecture that enables multiple-tier, server-based development and web-enabled applications, while optimizing existing mainframe resources.**

Enterprise architecture is designed to eliminate redundancy, control costs, provide oversight, and deploy new technology in a secure and orderly way.

The mainframe has been the primary technical resource for state computing. Most contemporary computing applications are developed using distributed computing. In the distributed model, different parts of the application are distributed onto one or more servers to optimize processing. A web browser is becoming the user interface of choice for distributed applications.

The architecture would also include technology standards that offer choices, but at the same time allow the state to grow depth of expertise.

Tactical Plans

- Design statewide technology architecture and establish standards.

  - ➢ *Document existing statewide infrastructure, beginning with DoIT by January 2002; establish method to update on a biannual basis. Expand to state agencies by end of FY. (See Appendix J - DoIT Infrastructure)*
  - ➢ *Establish tech standards priorities by March 2002.*
  - ➢ *Define conceptual architecture framework by March 2002.*
  - ➢ *Identify tactical plan for architecture implementation by March 2002.*
  - ➢ *Define and implement related standards and policies on statewide basis by June 2002.*
  - ➢ *Architecture draft done of computing environment October 2002.*
  - ➢ *Develop a Statewide Architecture Plan.*

- Develop methodologies for determining the best platform to suit each agency and application requirement.

  - ➢ *Apply project management steps to set requirements to complete analysis by end of FY02.*
  - ➢ *Conduct multi-agency meetings within the first quarter FY02.*

- Continue mainframe support for legacy applications until the applications are replaced or redeployed.

5D. **COMPUTER CENTERS.** **Define and implement a strategy to align existing computing centers with the infrastructure plan and new architecture. Provide an integrated service infrastructure for agencies to use in building their own systems and applications.**

Establish and maintain cooperation and knowledge sharing among agencies.

The overarching goal for the state of Nevada's standards-based architecture is to enable agencies and educational institutions to increase the quantity and quality of service to citizens, while at the same time, reducing cost of providing those services. A standards-based architecture will allow for:

- Improved, secured access to data
- Quicker implementation of new systems
- Minimized support costs
- Leveraged available talent and skills
- Statewide consensus and communication of a common direction
- Managed systems complexity

Tactical Plans

- Establish policies and standards with support for I/T design, procurement, and implementation.

- Strengthen the current security policies and standards to meet today's threats in today's technical environment.

  ➢ *Perform a review of existing security policies and standards. Develop and obtain I/T Oversight Committee approval for state security standards within FY02/03.*

- Explore opportunities for sharing information among agencies.

  ➢ *Establish the Data Processor Manager Work Group on a statewide basis for input in FY02.*

- Establish procedures to operate as a cost effective, quality service provider in FY 02.

5E.   RATE SETTING. Initiate a formal rate setting process by developing a plan that involves participation from all customer agencies, the Budget Office, LCB and DoIT unit managers

A comprehensive rate setting plan requires investment in a formal rate model application to enable DoIT to confidently establish rates. Rates must reflect the true costs of providing services, which includes annual operating expenditures and depreciation on existing assets to accumulate cash for asset replacement. Improved planning with customer agencies will help DoIT unit managers develop realistic utilization projections for each of the service cost pools and associated costs.

Better rate setting for services results from effective resource management.

Tactical Plans

- DoIT is in the developmental stages of establishing a formal rate setting process. DoIT will have the process reviewed by an outside consulting firm on a quarterly basis for at least two years.

  ➤ *Specific steps to accomplish this plan are as follows:*

    - Purchase a rate model application and train appropriate staff on its use.
    - Meet with customer agencies annually to develop utilization projections for each cost pool.
    - Track actual costs for all hardware, software, and maintenance on a monthly basis.
    - Develop a Forecast Plan in advance of each fiscal year based on the legislatively approved budget and forecasted service utilization for the upcoming year.
    - Develop an Actual Cost Allocation Plan at the close of each fiscal year based on actual cost and usage data. Any over or under recovery will be adjusted in the third subsequent fiscal year. The draft of the Actual Cost Allocation Plan will be completed by December 15 of each year.
    - On a quarterly basis, meet with the Budget Office, LCB, and DMG-Maximus to review DoIT's rate model, implementation, and rate structure for the upcoming year.

Document History			
Ver	**Date**	**Reason for Change**	**Initiator's Name**
0.1	09/18/00	Rough Draft of document	TS
0.4	10/19/00	Preparation of draft for governor staff	TS
1.0	10/20/00	For budget office	TS
1.1	12/05/00	Incorporate addendum D & E document	TS/MT
2.0	1/29/01	Revise - Quarterly Update	AM/KAR
3.0	3/15/01	Revise - Quarterly Update; Add tactical	AM/KAR
3.5	7/31/01	Quarterly Update; Minor revisions; New Capacity Charts	AM/BG/MT
4.0	10/31/01	Quarterly Update: Updates to Appendices (B,D,F), Incorporate two new Appendices (J & K), Updates to Plan, Vision.	AM/DM/KA/MT/ PS